for the restoration of major and minor tanks for each of the districts would be arranged to be compiled and published and that they would be made available to the members of both the Representative Assembly and the Legislative Council. The subject was also brought up at the Legislative Council meeting held in January 1939.

2. Accordingly, a triennial programme of restoration of major and minor tanks in the State for the years 1939-40, 1940-41 and 1941-42, together with an introductory note on the problems connected with the restoration of tanks, has been drawn up.

3. Government are pleased to approve of the programme and they hope that every endeavour will be made to work it out as far as possible.

N. N. AYYANGAR,
Secretary to Government,
Public Works Department.

ANNEXURE.

Problems connected with the Restoration of Major and Minor Tanks in the State.

1. *Raiyats' demand for restoration works.*—There has been of late an incessant demand by the public for the restoration of tanks in larger numbers. This is being pressed for in the several petitions that are presented to the Dewan during his tour in the several districts, and also by the Members of the Representative Assembly and Legislative Council, by way of representations and resolutions. They generally want (1) that a systematic survey of tanks be conducted to ascertain their present capacities to irrigate the atchkat lands under them, and (2) to prepare a comprehensive scheme for the restoration of all the unrestored tanks within a fixed period.

2. *Tanks and the cost of restoration.*—There are in all 23,459 tanks in the State, of which 2,656 are Major and 20,803 are Minor. To end of 1937-38, 2,401 major and 5,040 minor tanks have been restored. To provide funds for the restoration of the remaining 255 major and 15,763 minor tanks is the main problem.

The average cost of restoring a major tank is about Rs. 9,000 and that of a minor tank is Rs. 1,600 (exclusive of raiyats' share of contribution). On this basis, the cost of restoring the remaining major and minor tanks would be about Rs. 2·70 crores.

3. *Survey of tanks.*—A survey of tanks in the State was once conducted during the years 1900 to 1903 by a Special Duty Officer and his staff appointed for the purpose. The statistics collected then have been compiled and published in the form of Tank Registers, Supply Statements, Serial and Index Maps. The publications have facilitated the preparation of tank restoration projects a good deal. During the year 1927, the constitution of Project Sub-Divisions was sanctioned at a total annual cost of Rs. 50,000 solely for the preparation of projects. These Sub-Divisions were abolished in 1931, as a measure of economy.

As the existing establishment has to attend to various kinds of routine works, it has not been found possible to depute them solely for the survey of tanks. The survey and preparation of projects require continuous and undivided attention. The question of the revival of these Project Sub-Divisions is under the consideration of Government.

4. *Maintenance work to tanks.*—This important work has long been neglected by the raiyats. It has been laid down in the Irrigation Act of 1932, that the repairs to bund and feeder channels have to be attended to by the raiyats in addition to the other works, such as clearing jungle, weeding off plants, clearing silt in the channels, etc., Government on their part have to look after the repairs of sluices and waste weirs.

Keeping the waste weirs and sluices in order does not mean everything to the tanks, unless the raiyats do maintenance work properly, by customary labour. During the Dasara Session of the Representative Assembly (1938), a levy of acreage cess in lieu of the raiyats' share of the maintenance work was proposed, but

the members felt reluctant to bear the cost. If our tanks are to be in order, maintenance work has to be carried out either by the obligatory customary labour, or by the recovery of acreage cess.

5. *The problem of silt.*—It is a common complaint that several tanks in Mysore are silted up and that capacities of tanks in several cases are inadequate for irrigating the entire achkat. Representations for their improvement or the conversion of wet into dry assessment have become frequent.

Silting is a natural process, and during rains, fine and coarse soil is being deposited in tank beds. This process has to a certain extent been accelerated by developing cultivation upstream almost up to the water edge of the tank, and the loose earth is readily washed into the tank bed. The only effective remedy against silting is to scrape out the silt from the tank beds when dry. This could be done by the raiyats for purposes of manure. If every household in the village removes—say, ten cart-loads of silt every year, the capacity of the tank would be improved. The work of scraping out silt may well be included as a part of the rural uplift scheme. Even after this, if any silt remains, arrangements could be made for scraping it by machinery. Scraping out of silt by machinery may form part of the item of restoration of minor tanks provided in the budget and charged to that head. Removal of silt from a tank is a substantial and permanent improvement to a tank.

6. *Economic use of water.*—Much can be done by preventing the wastage of tank water during distribution. The sluices, are mishandled and water is wasted. By economic use of water by a careful regulation of sluices, the present capacities of tanks could be made at least sufficient for the lands below.

7. *Use of sub-soil water.*—There is, however, a large quantity of sub-soil water available very near the ground level, below these tanks. If this water be used by pumping up, it is possible that the difficulties of the owners of lands below the tanks would be solved.

This is being done in Kyalasanahalli (Bangalore District) in the estate of *Lokasevasaktha Rao Bahadur* B. K. Garudachar. Some of the details of working cost, etc., are furnished below:—

A. CAPITAL EXPENSES.

(*Valued liberally*)		Rs.
(1) 30 acres of wet land valued liberally at Rs. 400 per acre.		12,000
(2) 50 acres of dry land at Rs. 60 per acre	...	3,000
(3) Forming grounds, levelling and fencing	...	2,000
(4) Cost of motor, pump, pipes, etc. ...	...	2,000
(5) Implements, 6 pairs of bullocks, sheds, etc.	...	2,500
Total	...	21,500

B. WORKING EXPENSES.

(*a*) Eight servants at Rs. 7–8–0 per month, per man		..	720
(*b*) One Foreman at Rs. 15 per month	...	...	180
(*c*) Seasonal labour, etc.	...	...	750
(*d*) Kandayam (if paid)	...	...	300
(*e*) Manure (chemical and oil cakes in addition to farm manure for the year's crop).	...	...	600
(*f*) Cost of electric power as per bills	...	...	250
(*g*) Depreciation on machinery and implements		...	100
(*h*) Depreciation on bullocks	...	...	100
		Total	3,000

C. EXPECTED YIELD.

(*Value fixed very conservatively*).

(*i*) 20 pallas of paddy per acre or 500 pallas at Rs. 5	...	2,500
(*ii*) 300 maunds of jaggery per acre 1,500 maunds at Re. 1	...	1,500
(*iii*) Ragi and other crops at Rs. 40 per acre for 50 acres	...	2,000
Total	...	6,000

D. NET YIELD.

In the least	...	...	...	3,000

E. RETURN.

Fourteen per cent roughly. Allowing for bad years, we may safely take the return at 12 per cent, as we have calculated the value of land and expenses liberally and have taken the value of crop very conservatively. If we consider Rs. 100 a month as remuneration for the labour of the owner himself as Manager, the net return will be Rs. (3,000−1,200)=Rs. 1,800, which gives a return of 8·4 per cent. Intelligent agriculture as is done by Mr. Garudachar, seems, therefore, to be one of the solutions for assuring full yields below our maidan tanks.

8. *Grant for irrigation works.*—The average annual grant for irrigation works for the past ten years is about Rs. 11 lakhs out of a total grant of Rs. 32 lakhs for Public Works Department, while the average for the previous ten years from 1916-17 was about 5 lakhs. This indicates that a liberal policy of financing irrigation works has been followed. If all the tanks are to be restored within a fixed period, say 10 years, the grant that would be required each year will be Rs. 27 lakhs, only for tank works. This is not possible in view of the irrigation works of magnitude on hand.

9. *Conversion of wet lands into dry.*—Even after attending to all these works, if the water in the tank is found insufficient, it is desirable to convert the lower portion of the achkat into garden land. To convert the wet lands into dry on account of inadequacy of water is suicidal to the interest of wet cultivation and, in the long run, will cause a heavy drop in revenue to the extent of nearly Rs. 20 lakhs. Rather than convert wet into dry, it would be desirable to convert into garden, cocoanut and plantain for instance. There are several tanks below which there is no paddy cultivation at all, but only cocoanut gardens.

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